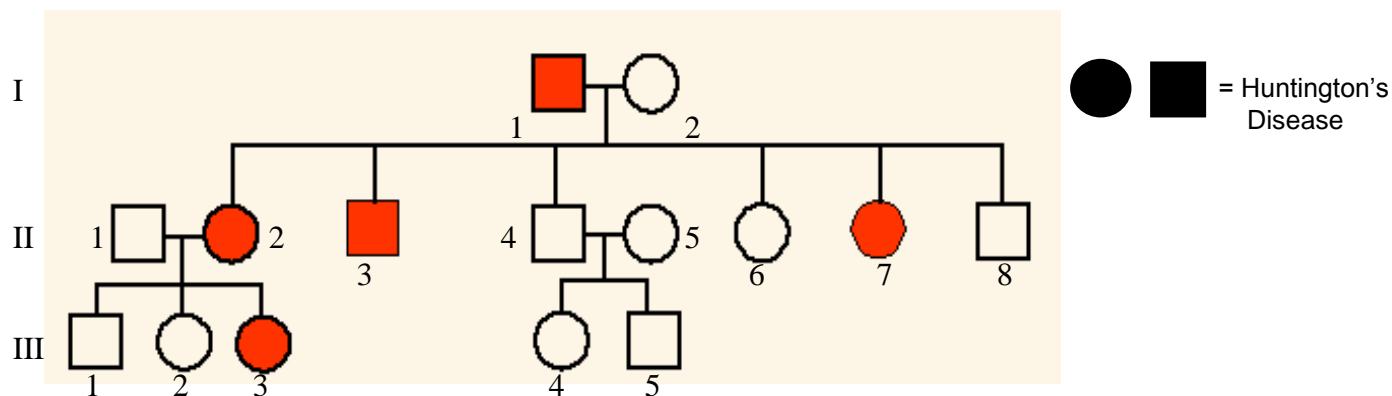


Pedigree Practice Worksheet #2

Ms. Ottolini, PreAP Biology



1. There are no carriers for Huntington's Disease- you either have it or you don't. With this in mind, is Huntington's disease caused by a dominant or recessive trait? Dominant

2. How many children did individuals I-1 and I-2 have? 6

3. How many girls did II-1 and II-2 have? 2 How many have Huntington's Disease? 1

4. How are individuals III-2 and II-4 related? Niece/uncle I-2 and III-5? Grandmother/Grandson

5. The pedigree to the right shows a family's pedigree for Hitchhiker's Thumb. Is this trait dominant or recessive? recessive

6. How do you know? III-1 and III-2 have children with the trait

7. How are individuals III-1 and III-2 related? Married cousins

8. How would you name the 2 individuals that have hitchhiker's thumb? IV-1 and IV-3

9. Name 2 individuals that were carriers of hitchhiker's thumb. III-1 and III-2

10. Is it possible for individual IV-2 to be a carrier? Yes Why? she could receive a dominant allele from one parent and a recessive allele from the other

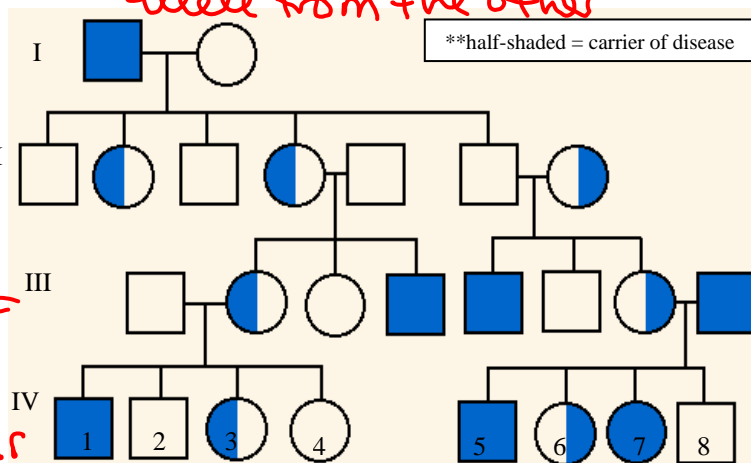
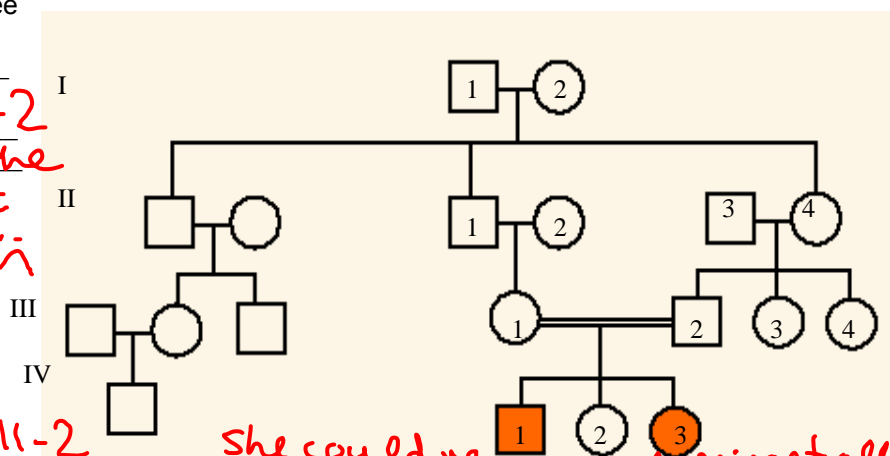
11. The pedigree to the right shows a family's pedigree for colorblindness. Which sex can be carriers of colorblindness and not have it? Females

12. With this in mind, what kind of trait is colorblindness? sex-linked recessive

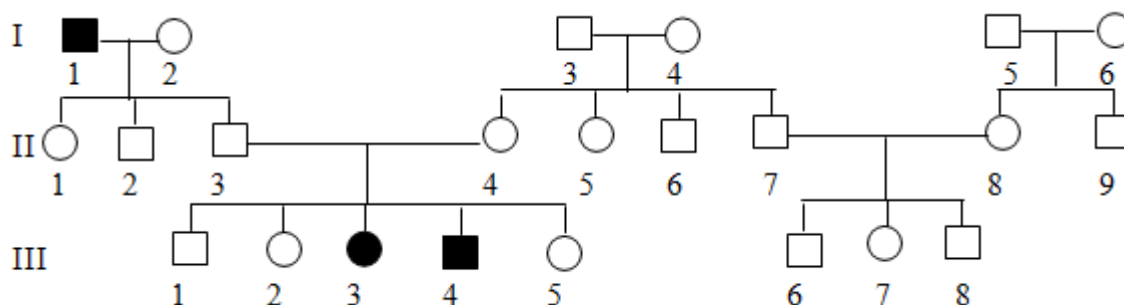
13. Why does individual IV-7 have colorblindness? She received an X^a from each parent

14. Why do all the daughters in generation II carry the colorblind gene? They have to receive an X^a from their father

15. Name 2 IV generation colorblind males. IV-1 and IV-5



Use the pedigree given below to answer questions 16-18.



16. Try to identify the genotypes of the following individuals. Genotype options are AA, Aa, and aa.

- III-3: aa
- II-1: Aa
- I-1: aa
- II-4: Aa

17. Is this trait dominant or recessive? Explain your answer.

Recessive: parents II-3 and II-4 can have children with the trait

18. How can you know for sure that individuals II-3 and II-4 are heterozygous?

They each have to be able to give a "a" to have a child with the genotype "aa"

19. Brown eyes are a dominant eye-color allele and blue eyes are recessive. A brown-eyed woman whose father had blue eyes and whose mother had brown eyes marries a brown-eyed man whose parents are also brown-eyed. They have a son who is blue-eyed. Please draw a pedigree showing all four grandparents, the two parents, and the son. Indicate which individuals you are certain of their genotype and where there are more than one possibilities.

B = brown
b = blue

* This pedigree shows the inheritance of the blue eye trait *

